

IN THE CLAIMS

Please amend the claims as follows:

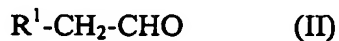
Claims 1-17 (Canceled)

1 ~~18.~~ (Previously Presented) A process for the production of an alkyl-substituted butenol having the formula (I):



wherein  $R^1$  is a saturated or olefinically unsaturated alkyl or cycloalkyl group having from 4 to 16 carbon atoms and wherein  $R^1$  is optionally substituted by an alkyl, cycloalkyl, aryl or alkaryl having up to 12 carbon atoms; and  $R^2$  is hydrogen or an alkyl group having from 1 to about 6 carbon atoms the process comprising:

by reacting at least one aldehyde of the formula (II) with at least one corresponding lower aldehyde:



and  $R^1$  has the same meaning as in formula (I);

wherein:

(i) aldol condensation is carried out in an inert organic solvent, and

(ii) reduction of the unsaturated aldehydes is carried out in the presence of an optionally calcined copper/zinc catalyst, and is carried out continuously under isothermal conditions at a temperature ranging from 45 to 60°C and under a hydrogen pressure of 1 to 300 bar at an LHSV (liquid hourly space velocity) of 0.3 to 3.0 hr<sup>-1</sup>.

2 ~~19.~~ (Previously Presented) The process of claim ~~18~~, wherein the aldol condensation is carried out in a nonpolar organic solvent which can form an azeotrope with water.

3 ~~20~~. (Previously Presented) The process of claim ~~18~~, wherein the aldol condensation is carried out in the presence of a catalyst which is an ammonium salt of an organic acid.

4 ~~21~~. (Previously Presented) The process of claim ~~18~~, wherein R<sup>2</sup> in formula (I) is a methyl group.

5 ~~22~~. (Previously Presented) The process of claim ~~18~~, wherein R<sup>2</sup> in formula (I) is a methyl group and wherein propionaldehyde is used in a 2.5 to 10-fold molar excess based on the aldehyde of formula (II).

6 ~~23~~. (Previously Presented) The process of claim ~~22~~, wherein the propionaldehyde is used in a 2.5 to 3.5-fold molar excess based on the aldehyde of formula (II).

7 ~~24~~. (Previously Presented) The process of claim ~~18~~ wherein R' is a 4-(2,2,3-trimethylcyclopent-3-en-1-yl) group.

8 ~~25~~. (Previously Presented) The process of claim ~~18~~, wherein the organic solvent in (i) is selected from the group consisting of toluene, xylene, benzene, cyclohexane and methyl cyclohexane.

9 ~~26~~. (Previously Presented) The process of claim ~~18~~, wherein R<sup>1</sup> is a saturated alkyl group having from 4 to 16 carbon atoms.

10 ~~27~~. (Previously Presented) The process of claim ~~18~~, wherein R<sup>1</sup> is an olefinically unsaturated alkyl group having from 4 to 16 carbon atoms.

11 28. (Previously Presented) The process of claim 18<sup>1</sup>, wherein R<sup>1</sup> is an olefinically unsaturated cycloalkyl group having from 4 to 16 carbon atoms.

12 29. (Previously Presented) The process of claim 18<sup>1</sup>, wherein R<sup>1</sup> is not further substituted.

13 30. (Previously Presented) The process of claim 18<sup>1</sup>, wherein R<sup>1</sup> is substituted by an alkyl, cycloalkyl, aryl or alkaryl having up to 12 carbon atoms.

14 31. (Previously Presented) The process of claim 18<sup>1</sup>, wherein R<sup>2</sup> is hydrogen.

15 32. (Previously Presented) The process of claim 18<sup>1</sup>, wherein R<sup>2</sup> is an alkyl group having from 2 to 6 carbon atoms.

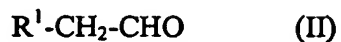
16 33. (Previously Presented) The process of claim 18<sup>1</sup>, wherein said LHSV (liquid hourly space velocity) ranges from 0.6 to 1.2 hr<sup>-1</sup>.

17 34. (Previously Presented) A process for the production of an alkyl-substituted butenol having the formula (I):



wherein R<sup>1</sup> is a saturated or olefinically unsaturated alkyl or cycloalkyl group having from 4 to 16 carbon atoms and wherein R<sup>1</sup> is optionally substituted by an alkyl, cycloalkyl, aryl or alkaryl having up to 12 carbon atoms; and R<sup>2</sup> is hydrogen or an alkyl group having from 1 to about 6 carbon atoms the process comprising:

by reacting at least one aldehyde of the formula (II) with at least one corresponding lower aldehyde:



and  $\text{R}^1$  has the same meaning as in formula (I);

wherein:

(i) aldol condensation is carried out in an inert organic solvent, and

(ii) reduction of the unsaturated aldehydes is carried out in the presence of an optionally calcined copper/zinc catalyst, and

is carried out continuously in a fixed bed reactor at a LHSV (liquid hourly space velocity) of 0.3 to 3.0  $\text{hr}^{-1}$ ,

under isothermal conditions at a temperature ranging from 45 to 60°C, and

under a hydrogen pressure of 1 to 300 bar.